

REMARKS

This Amendment is prepared in response to the non-final Office action (an unnumbered Paper) mailed on 7 December 2005. Allowance of claims 1 through 24, 36 through 41, 64 through 77, 94 through 101, 103 through 105, 107 through 111, 114, 115 and 124 is noted with appreciation.

Status Of Claims

Claims 1-24, 36-87 and 94-141 are pending. Claims 25 through 35 and 88 through 93 were previously canceled without prejudice or disclaimer of their subject matter. By this Amendment, claims 42, 43, 60, 64, 68, 78, 83, 101, 106, 107, 116, 121, 125, 131 and 136 are amended, and claims 142 and 143 are newly presented. Thus, claims 1 through 24, 36-87, and 94 through 143 remain pending in the application.

Claim Objection

Claim 43 is objected to; the Examiner required the phrase "said thickness" on the second line of the claim be changed to "a thickness".

Rejection of Claims 42-45, 48, 49, 51-53, 56, 78-80, 83-85, 125-127, 131-133, and 136-138 Under 35 U. S. C. §102 and/or §103

Claims 42 through 45, 48, 49, 51 through 53, 56, 78 through 80, 83 through 85, 125 through 127, 131 through 133, and 136 through 138 are rejected under 35 U.S.C. §102(b) as anticipated by or, in the alternative, under 35 U.S.C. §103(a) as obvious over, U.S. Patent No. 3,999,964 to Carr. Applicant respectfully traverses this rejection for the following reasons.

In support of this rejection, the Examiner stated that:

“Carr (note Figures 1-5, and col. 3, line 19 to col. 4, line 41) discloses an electrically enhanced filter apparatus and method with a porous replaceable filter medium positioned between perforated grids 26 and 28 forming pockets between arms of the filter assembly as claimed (35 USC 102b). It would appear that Carr may not explicitly state that the perforated grids are electrically conducting. However, Carr (note col. 4, lines 11-14) does disclose that the electrically conductive bus bar connects the charged perforated grid to a high magnitude DC voltage which indicates that the perforated grids of Carr are electrically conducting in virtually the same manner disclosed and shown by applicant. Consequently, it is inherent or at least would have been readily obvious to one of ordinary skill in the art (35 USC 103a) that Carr's perforated grids are electrically conductive.”

The Examiner kindly noted in the “Response to Arguments” section that “it is important for applicant to understand that Carr discloses the filter, arms, and pockets”. Applicant’s pending claims are patentably distinguishable from Carr ‘964 by the critical teaching of Carr ‘964 that:

“[i]n order to maintain the design as compact as possible, both ionizing wires 16 and charged grid 26 are connected to the **identical bus bar 20**”.¹

Carr ‘964 also teaches that “grid 28” is grounded.² The structure and processes defined by Applicant’s claims 42 through 45, 48, 49, 51 through 53, 56, 78 through 80, 83 through 85, 125-127, 131-133, and 136 through 138, as well as newly added claims 142 and 143 are not plagued by this electrical interconnection, thereby advantageously providing a simplified structure for a replaceable filter. Withdrawal of this rejection is therefore indicated.

¹ Carr ‘964, column 4, lines 3-5, emphasis added.

² Carr ‘964, column 3, line 28.

Rejection of Claims 42-45, 47-49, 51-54, 56-63, 78-80, 83-85, 106, 116-119, 125-128, 130-133, 135, 139, and 141 Under 35 U.S.C. 103(a)

Claims 42 through 45, 47 through 49, 51 through 54, 56 through 63, 78 through 80, 83 through 85, 106, 116 through 119, 125 through 128, 130 through 133, 135, 139, and 141 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 3,999,964 to Carr in view of U.S. Patent No. 6,497,754 to Joannou. Applicant respectfully traverses this rejection for the following reasons.

In support of this rejection, the Examiner stated that:

“Carr, as described above in paragraph 5, discloses an electrically enhanced filter apparatus and process substantially as claimed. It would appear that Carr may not explicitly state that the grids are electrically conducting. Furthermore, Carr apparently does not disclose the presence of conductive print or pleats in the filter medium arms. However, Joannou (note Figures 1-6) teaches the well-known use of conductive grids 5, 10 including conductive graphite printing (note col. 4, lines 5-17) and a pleated filter medium 15 for the purpose of ensuring maximum electric charging and particle collection area (note Abstract; col. 2, lines 20-64, and col. 4, lines 27-65). Consequently, it would have been obvious to one having ordinary skill in the art to employ conductive grids with conductive graphite print and a pleated filter medium in the Carr electrically enhanced filter apparatus and process in order to improve electric charging and particle capture as taught by Joannou.”

The Examiner states in the “Response to Arguments” section that Carr discloses the filter, arms, and pockets and that Joannou has merely been relied upon to explicitly teach conductive grids, graphite printing, and filter medium pleats. The Examiner further states that employing these apparently minor modifications to the Carr filter device and process would clearly not destroy the basic operation of the Carr filter system as argued by the applicant.

Applicant notes however, that the Examiner's proposed combination, including whatever "printing" that Joannou 754 may teach, suffers from the same deficiencies as the primary reference, which teaches a critical structural feature that requires that:

"[i]n order to maintain the design as compact as possible, both ionizing wires 16 and charged grid 26 are connected to the **identical bus bar 20**".³

Carr '964 also teaches that "grid 28" is grounded,⁴ while the secondary reference depends upon "connecting means 11" to electrically couple contact electrode 4 with screen 5.⁵ The structure and processes defined by Applicant's claims 42 through 45, 47 through 49, 51 through 54, 56 through 63, 78 through 80, 83 through 85, 106, 116 through 119, 125 through 128, 130 through 133, 135, 139, and 141, as well as newly added claims 142 and 143 are not plagued by this electrical interconnection, thereby advantageously providing a simplified structure for a replaceable filter, and thereby beneficially facilitating both the manufacture of the filter and its substitution for a dirty filter. Withdrawal of this rejection is therefore indicated.

Allowable Subject Matter

Claims 1 through 24, 36 through 41, 64 through 77, 94 through 101, 103 through 105, 107 through 111, 114, 115, and 124 are allowed. Claims 46, 50, 55, 81, 82, 86, 87, 102, 112, 113, 120 through 123, 129, 134, and 140 are objected to as being dependent upon a rejected base claim, but the Examiner stated that these claims would be allowable if rewritten in

³ Carr '964, column 4, lines 3-5, emphasis added.

⁴ Carr '964, column 3, line 28.

⁵ Joannou '754, line 4, line 22. Note that Joannou '754 improperly uses reference numeral 11 to designate multiple, distinct structural components.

independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

In view of the above, it is submitted that the claims of this application are in condition for allowance, and early issuance thereof is solicited. Should any questions remain unresolved, the Examiner is requested to telephone Applicant's attorney.

Fees Incurred

A fee of \$200.00 is incurred by the addition of two independent claims in excess of those previously paid for. The check of Applicant's undersigned attorney drawn to the order of the Commissioner, is attached to this Amendment.

Additionally, a Petition for a one month extension of time, together with the fee thereby incurred, is attached to this Amendment. Should the Petition become lost or misplaced, the Commissioner is authorized to charge Deposit Account No. 02-4943, and to characterize this paragraph as the requisite Petition.

Respectfully submitted,



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